

**KME Series**

- Endurance with ripple current : 105°C 1000 hours
- Solvent-proof type except 350 to 400V<sub>dc</sub>
- Pb-free design

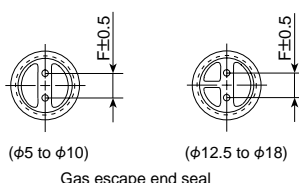
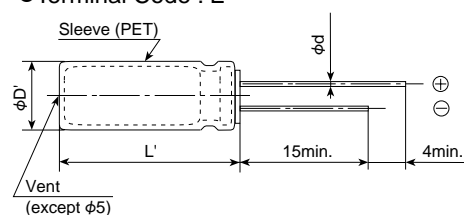


## ◆SPECIFICATIONS

Items	Characteristics												
Category													
Temperature Range	-55 to +105°C(6.3 to 100V <sub>dc</sub> ) -40 to +105°C(160 to 400V <sub>dc</sub> )												
Rated Voltage Range	6.3 to 400V <sub>dc</sub>												
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)												
Leakage Current	6.3 to 100V <sub>dc</sub>							160 to 400V <sub>dc</sub>					
	I=0.03CV or 4μA, whichever is greater. (at 20°C after 1 minute)							CV	Time	After 1minute		After 5minutes	
	I=0.01CV or 3μA, whichever is greater. (at 20°C after 2 minutes)									CV≤1000	I=0.1CV+40 max.		I=0.03CV+15 max.
								CV>1000	I=0.04CV+100 max.		I=0.02CV+25 max.		
								(at 20°C)					
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)												
Dissipation Factor (tanδ)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V		
	tanδ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.20	0.24		
	When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. (at 20°C, 120Hz)												
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V		
	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	2	3	6		
	Z(-40°C)/Z(+20°C)	8	6	4	3	3	3	3	3	4	6 (at 120Hz)		
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 1000 hours at 105°C.												
	Capacitance change	≤±20% of the initial value											
	D.F. (tanδ)	≤200% of the initial specified value											
	Leakage current	≤The initial specified value											
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.												
	Rated voltage	6.3 to 100V <sub>dc</sub>						160 to 400V <sub>dc</sub>					
	Capacitance change	≤±20% of the initial value						≤±20% of the initial value					
	D.F. (tanδ)	≤200% of the initial specified value						≤200% of the initial specified value					
	Leakage current	≤The initial specified value						≤500% of the initial specified value					

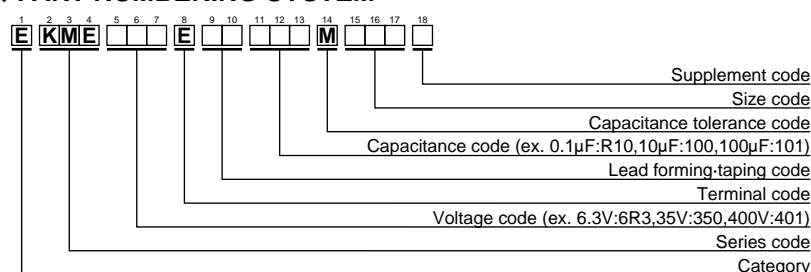
## ◆DIMENSIONS [mm]

- Terminal Code : E



φD	5	6.3	8	10	12.5	16	18
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φD'	φD+0.5max.						
L'	L+1.5max						

## ◆PART NUMBERING SYSTEM



## ◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.
6.3	33	5×11	0.22	54	EKME6R3E□□330ME11D	50	0.10	5×11	0.10	1.3	EKME500E□□R10ME11D
	47	5×11	0.22	65	EKME6R3E□□470ME11D		0.22	5×11	0.10	2.9	EKME500E□□R22ME11D
	100	5×11	0.22	95	EKME6R3E□□101ME11D		0.33	5×11	0.10	4.4	EKME500E□□R33ME11D
	220	6.3×11	0.22	160	EKME6R3E□□221MF11D		0.47	5×11	0.10	7.0	EKME500E□□R47ME11D
	330	6.3×11	0.22	195	EKME6R3E□□331MF11D		1.0	5×11	0.10	13	EKME500E□□R10ME11D
	470	8×11.5	0.22	270	EKME6R3E□□471MHB5D		2.2	5×11	0.10	20	EKME500E□□R22ME11D
	1000	10×12.5	0.22	460	EKME6R3E□□102MJC5S		3.3	5×11	0.10	25	EKME500E□□R33ME11D
	2200	12.5×20	0.24	810	EKME6R3E□□222MK20S		4.7	5×11	0.10	30	EKME500E□□R47ME11D
	3300	12.5×20	0.26	960	EKME6R3E□□332MK20S		10	5×11	0.10	46	EKME500E□□100ME11D
	4700	16×25	0.28	1330	EKME6R3E□□472ML25S		22	5×11	0.10	68	EKME500E□□220ME11D
	6800	16×25	0.32	1500	EKME6R3E□□682ML25S		33	6.3×11	0.10	90	EKME500E□□330MF11D
	10000	16×31.5	0.40	1765	EKME6R3E□□103MLN3S		47	6.3×11	0.10	110	EKME500E□□470MF11D
	15000	18×35.5	0.50	2075	EKME6R3E□□153MMP1S		100	8×11.5	0.10	180	EKME500E□□101MHB5D
10	22	5×11	0.19	49	EKME100E□□220ME11D	63	220	10×16	0.10	345	EKME500E□□221MJ16S
	33	5×11	0.19	60	EKME100E□□330ME11D		330	10×20	0.10	460	EKME500E□□331MJ20S
	47	5×11	0.19	70	EKME100E□□470ME11D		470	12.5×20	0.10	610	EKME500E□□471MK20S
	100	5×11	0.19	105	EKME100E□□101ME11D		1000	16×25	0.10	1080	EKME500E□□102ML25S
	220	6.3×11	0.19	175	EKME100E□□221MF11D		2200	18×35.5	0.12	1530	EKME500E□□222MMP1S
	330	8×11.5	0.19	245	EKME100E□□331MHB5D	100	4.7	5×11	0.09	32	EKME630E□□47ME11D
	470	8×11.5	0.19	290	EKME100E□□471MHB5D		10	5×11	0.09	50	EKME630E□□100ME11D
	1000	10×16	0.19	550	EKME100E□□102MJ16S		22	6.3×11	0.09	82	EKME630E□□220MF11D
	2200	12.5×20	0.21	860	EKME100E□□222MK20S		33	6.3×11	0.09	100	EKME630E□□330MF11D
	3300	12.5×25	0.23	1100	EKME100E□□332MK25S		47	8×11.5	0.09	135	EKME630E□□470MHB5D
	4700	16×25	0.25	1400	EKME100E□□472ML25S		100	10×12.5	0.09	225	EKME630E□□101MJC5S
	6800	16×31.5	0.29	1690	EKME100E□□682MLN3S		220	10×20	0.09	400	EKME630E□□221MJ20S
	10000	18×35.5	0.37	1950	EKME100E□□103MMP1S		330	12.5×20	0.09	540	EKME630E□□331MK20S
	10	5×11	0.16	35	EKME160E□□100ME11D		470	12.5×25	0.09	700	EKME630E□□471MK25S
	22	5×11	0.16	54	EKME160E□□220ME11D		1000	16×31.5	0.09	1210	EKME630E□□102MLN3S
	33	5×11	0.16	64	EKME160E□□330ME11D	160	0.10	5×11	0.08	2.6	EKME101E□□R10ME11D
	47	5×11	0.16	77	EKME160E□□470ME11D		0.22	5×11	0.08	5.8	EKME101E□□R22ME11D
16	100	6.3×11	0.16	125	EKME160E□□101MF11D		0.33	5×11	0.08	7.8	EKME101E□□R33ME11D
	220	8×11.5	0.16	215	EKME160E□□221MHB5D		0.47	5×11	0.08	10	EKME101E□□R47ME11D
	330	8×11.5	0.16	260	EKME160E□□331MHB5D		1.0	5×11	0.08	15	EKME101E□□R10ME11D
	470	10×12.5	0.16	370	EKME160E□□471MJC5S		2.2	5×11	0.08	23	EKME101E□□R22ME11D
	1000	10×20	0.16	640	EKME160E□□102MJ20S		3.3	5×11	0.08	29	EKME101E□□R33ME11D
	2200	12.5×25	0.18	1000	EKME160E□□222MK25S		4.7	5×11	0.08	34	EKME101E□□R47ME11D
	3300	16×25	0.20	1300	EKME160E□□332ML25S		10	6.3×11	0.08	56	EKME101E□□100MF11D
	4700	16×31.5	0.22	1600	EKME160E□□472MLN3S		22	8×11.5	0.08	96	EKME101E□□220MHB5D
	6800	18×35.5	0.26	1900	EKME160E□□682MMP1S		33	10×12.5	0.08	140	EKME101E□□330MJC5S
	10000	18×40	0.34	2060	EKME160E□□103MM40S		47	10×16	0.08	180	EKME101E□□470MJ16S
	4.7	5×11	0.14	26	EKME250E□□47ME11D		100	12.5×20	0.08	320	EKME101E□□101MK20S
	10	5×11	0.14	38	EKME250E□□100ME11D		220	16×25	0.08	570	EKME101E□□221ML25S
	22	5×11	0.14	57	EKME250E□□220ME11D		330	16×25	0.08	700	EKME101E□□331ML25S
25	33	5×11	0.14	69	EKME250E□□330ME11D		470	16×31.5	0.08	880	EKME101E□□471MLN3S
	47	5×11	0.14	82	EKME250E□□470ME11D	200	0.47	6.3×11	0.20	9.0	EKME161E□□R47MF11D
	100	6.3×11	0.14	135	EKME250E□□101MF11D		1.0	6.3×11	0.20	12	EKME161E□□R10MF11D
	220	8×11.5	0.14	230	EKME250E□□221MHB5D		2.2	6.3×11	0.20	19	EKME161E□□R22MF11D
	330	10×12.5	0.14	335	EKME250E□□331MJC5S		3.3	8×11.5	0.20	26	EKME161E□□R33MHB5D
	470	10×16	0.14	440	EKME250E□□471MJ16S		4.7	8×11.5	0.20	31	EKME161E□□R47MHB5D
	1000	12.5×20	0.14	770	EKME250E□□102MK20S		10	10×16	0.20	59	EKME161E□□100MJ16S
	2200	16×25	0.16	1170	EKME250E□□222ML25S		22	10×20	0.20	95	EKME161E□□220MJ20S
	3300	16×31.5	0.18	1460	EKME250E□□332MLN3S		33	12.5×20	0.20	125	EKME161E□□330MK20S
	4700	18×35.5	0.20	1780	EKME250E□□472MMP1S		47	12.5×25	0.20	165	EKME161E□□470MK25S
	6800	18×40	0.24	1950	EKME250E□□682MM40S		100	16×25	0.20	270	EKME161E□□101ML25S
	4.7	5×11	0.12	28	EKME350E□□47ME11D		220	18×35.5	0.20	450	EKME161E□□221MMP1S
	10	5×11	0.12	41	EKME350E□□100ME11D	200	0.47	6.3×11	0.20	9.0	EKME201E□□R47MF11D
	22	5×11	0.12	61	EKME350E□□220ME11D		1.0	6.3×11	0.20	12	EKME201E□□R10MF11D
35	33	5×11	0.12	75	EKME350E□□330ME11D		2.2	6.3×11	0.20	19	EKME201E□□R22MF11D
	47	6.3×11	0.12	100	EKME350E□□470MF11D		3.3	8×11.5	0.20	26	EKME201E□□R33MHB5D
	100	8×11.5	0.12	170	EKME350E□□101MHB5D		4.7	10×12.5	0.20	36	EKME201E□□R47MJC5S
	220	10×12.5	0.12	300	EKME350E□□221MJC5S		10	10×16	0.20	59	EKME201E□□100MJ16S
	330	10×16	0.12	400	EKME350E□□331MJ16S		22	10×20	0.20	95	EKME201E□□220MJ20S
	470	10×20	0.12	520	EKME350E□□471MJ20S		33	12.5×25	0.20	140	EKME201E□□330MK25S
	1000	12.5×25	0.12	920	EKME350E□□102MK25S		47	12.5×25	0.20	165	EKME201E□□470MK25S
	2200	16×31.5	0.14	1340	EKME350E□□222MLN3S		100	16×31.5	0.20	285	EKME201E□□101MLN3S
	3300	18×35.5	0.16	1650	EKME350E□□332MMP1S		220	18×40	0.20	470	EKME201E□□221MM40S
	4700	18×40	0.18	1900	EKME350E□□472MM40S						

□□ : Lead forming / Taping code

Specifications in this bulletin are subject to change without notice.

## ◆STANDARD RATINGS

□ is non solvent-proof.

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.
250	0.47	6.3 × 11	0.20	9.0	EKME251E□□R47MF11D	350	4.7	10 × 20	0.24	48	EKME351E□□4R7MJ20S
	1.0	6.3 × 11	0.20	12	EKME251E□□1R0MF11D		10	12.5 × 20	0.24	79	EKME351E□□100MK20S
	2.2	8 × 11.5	0.20	21	EKME251E□□2R2MHB5D		22	16 × 20	0.24	130	EKME351E□□220ML20S
	3.3	10 × 12.5	0.20	30	EKME251E□□3R3MJC5S		33	16 × 25	0.24	175	EKME351E□□330ML25S
	4.7	10 × 12.5	0.20	36	EKME251E□□4R7MJC5S		47	16 × 35.5	0.24	230	EKME351E□□470MLP1S
	10	10 × 20	0.20	64	EKME251E□□100MJ20S		100	18 × 40	0.24	330	EKME351E□□101MM40S
	22	12.5 × 25	0.20	110	EKME251E□□220MK25S	400	1.0	10 × 12.5	0.24	18	EKME401E□□1R0MJC5S
	33	12.5 × 25	0.20	140	EKME251E□□330MK25S		2.2	10 × 16	0.24	30	EKME401E□□2R2MJ16S
	47	16 × 25	0.20	180	EKME251E□□470ML25S		3.3	10 × 20	0.24	40	EKME401E□□3R3MJ20S
350	100	18 × 35.5	0.20	310	EKME251E□□101MMP1S		4.7	10 × 25	0.24	52	EKME401E□□4R7MJ25S
	0.47	8 × 11.5	0.24	10	EKME351E□□R47MHB5D		10	12.5 × 25	0.24	79	EKME401E□□100MK25S
	1.0	10 × 12.5	0.24	18	EKME351E□□1R0MJC5S		22	16 × 25	0.24	145	EKME401E□□220ML25S
	2.2	10 × 16	0.24	30	EKME351E□□2R2MJ16S		33	16 × 31.5	0.24	185	EKME401E□□330MLN3S
	3.3	10 × 16	0.24	37	EKME351E□□3R3MJ16S		47	18 × 31.5	0.24	230	EKME401E□□470MMN3S

□ □ : Lead forming / Taping code

## ◆MAXIMUM ESR

(Ω) at 20°C, 120Hz

μF \ V <sub>dc</sub>	6.3	10	16	25	35	50	63	100	160 to 250	350 to 400
0.1						1,660		1,330		
0.22						754		603		
0.33						503		402		
0.47						353		282	706	847
1.0						166		133	332	398
2.2						75.4		60.3	151	181
3.3						50.3		40.3	101	121
4.7						35.3	31.8	28.2	70.6	84.7
10						16.6	14.9	13.3	33.2	39.8
22						7.54	6.79	6.03	15.1	18.1
33					6.03	5.03	4.52	4.02	10.1	12.1
47			5.65	4.94	4.23	3.53	3.18	2.82	7.06	8.47
100	3.70	3.15	2.65	2.32	1.99	1.66	1.49	1.33	3.32	3.98
220	1.66	1.43	1.21	1.06	0.905	0.754	0.679	0.603	1.51	
330	1.11	0.955	0.804	0.704	0.603	0.503	0.452	0.402		
470	0.776	0.671	0.565	0.494	0.423	0.353	0.318	0.282		
1,000	0.370	0.315	0.265	0.232	0.199	0.166	0.149			
2,200	0.181	0.158	0.136	0.121	0.106	0.0905				
3,300	0.131	0.116	0.101	0.0905	0.0804					
4,700	0.0988	0.0882	0.0776	0.0706	0.0635					
6,800	0.0781	0.0707	0.0634	0.0585						
10,000	0.0630	0.0581	0.0531							
15,000	0.0531									

## ◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance (μF) \ Frequency (Hz)	50	120	300	1k	10k	100k
0.1 to 4.7	0.65	1.00	1.35	1.75	2.30	2.50
10 to 47	0.75	1.00	1.25	1.50	1.75	1.80
100 to 1,000	0.80	1.00	1.15	1.30	1.40	1.50
2,200 to	0.85	1.00	1.03	1.05	1.08	1.08